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MONTANA FISH AND GAME DEPARTMENT

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Over the years, a wealth of information on ages and weights of big game animals have been gained at Fish and Game checking stations.

WEIGHT OF GAME

If you're like most big game hunters, you've probably seldom weighed a game animal, but nearly always look back and wonder what your trophy may have weighed. Some of the guesstimates are pretty wild.

Elk—How much does an elk weigh? Current research into the vital statistics of the Gallatin and northern Yellowstone elk shows field dressed weights usual among hunter-killed elk.

An elk calf at birth in June will

weigh approximately 35 pounds live weight. Males are slightly heavier than females. By hunting season, calves weigh up to 300 pounds live weight and dress out at about 200 pounds. This is an increase of over 700 percent in a five to six month period. Yearling bulls will weigh over 400 pounds live weight and field dress at around 300 pounds in October and November. Yearling cows weigh about 35 pounds less than yearling males. Mature bulls three years or

older generally field dress out between 400 and 550 pounds. They will weigh between 650 and 800 pounds. Mature cows generally field dress out between 300 and 400 pounds and weigh between 450 and 600 pounds alive.

The older age groups often have the heaviest animals as well as the greatest variation in weights between individuals. An eight year old bull from the northern Yellowstone range, taken in September 1965 as part of the research study and weighed 1,012 pounds field dressed at 810. A bull taken in Jackson Hole, Wyoming in August 1928, weighed 1,032 pounds live weight. While such weights are unusual for Rocky Mountain elk, they are more common among Roosevelt elk of the west coast. Roosevelt elk often weigh more but usually have shorter, broader beamed antlers than do the Rocky Mountain elk. A Roosevelt elk taken from Afognak Island, Alaska, field dressed at 1,000 pounds and was estimated at 1,300 pounds live weight.

Healthy elk herds on adequate winter forage have heavier individuals at all ages and sexes than herds in which numbers exceed those which winter forage supplies can support. Average weights of each sex at all age groups were heavier among northern Yellowstone elk during the winter of 1964-65 than among Gallatin elk. Also, winter losses from malnutrition were more prevalent in the Gallatin than in the Yellowstone. Thus, weights in conjunction with other information, such as antler and skeletal measurements, sex and age composition of harvests, and wintering

populations all provide insight to the welfare of elk herds.

Moose: The first attempt to obtain information on weights of the Shiras moose in Montana was made during the 1965 hunting season. A total of 33 field dressed weights was obtained at checking stations near Bozeman. The average weight of moose calves was 238 pounds. Among the yearlings, cows averaged 336 pounds and bulls 388 pounds. Mature cows averaged 498 pounds—the largest was 580 pounds. Mature bulls averaged 544 pounds with the largest weighing 630 pounds. The largest bull was estimated to have weighed between 900 and 1,000 pounds when alive. Studies on Alaskan moose, which are generally believed to be larger than our Shiras moose, have indicated that few mature bulls exceed 1,200-1,400 pounds total live weight.

Reasonable estimates of live weights of elk and moose may be made if field dressed weights are known by adding about one-half of the dressed weight. For deer, add about one-third of the dressed weight. Estimates of live weight may also be obtained by approximately doubling the weight of a skinned carcass.

FIRST CARP IN MONTANA

Here's a copy of a clipping from a Helena paper telling how carp came to Montana. No date is given save February 3rd in the article, but from the fact that on the same page of the scrap book there are other items in February 1886, that might be the year; and the newspaper either the Montana Livestock Journal or the Helena Independent.

An Important Historical Event

"One year ago Messers Hundley & Preuit, courtesy of Major Maginnis, received from Washington 100 German carp and put them in a pond on their ranch in the valley. They have never seen one of them since until this morning (Feb. 3rd) when an ice cutter brought in a specimen which had been killed by a stroke of the ice saw.

It was, when put in the pond, two inches long and now by actual measurement is 15 inches long and weighs three pounds and one ounce. This is the first carp raised in Montana, so far as we

know. The fact that they can be cultivated successfully here will be worth millions to the territory."

Note: The scrapbook was kept



Mourning doves are common nesters in Montana. They are very compatible with civilization and may be found nesting in nearly every situation from ground to eaves. About the time of our first frosts, mourning doves have left Montana for their southern wintering grounds.

DIXIE MAY UP LIMITS ON MOURNING DOVES

January 16, the day after the close of a three-part dove season in Louisiana, the Louisiana Game Commission mailed inquiries to thousands of their license holders.

Purpose of the inquiries will be to determine if they can't up the bag limit on mourning doves. Director of the Louisiana Commission stated, "The mourning dove is probably the most important game bird in the southern states and there are many indications that it is being underharvested."

Montana acts as a huge incubator for mourning doves, but they can't be hunted here as they are

by Col. W. F. Wheeler, first librarian of the Montana Historical Society, and now belongs to his granddaughter, Mrs. Thomas Topping.

classed as a song bird. About the time of our first autumn frosts, the fatted doves move out of Montana by the thousands and head for their southern wintering grounds where hunters eagerly wait for them.

PEN PALS

Following is an inquiry received from a boy in New York:

Dear Sirs:~

I'm in a fourth grade class. We are learning about conservation. I would like to know what you're conserving if you are conserving anything. How is it coming along?

Sincerely yours,

John Tobin

PURCHASE OF ACCESS AREAS

Each month the Fish and Game Commission receives many inquiries regarding their land acquisition program. Some of these are from persons having land they hope to sell and others from interested sportsmen recommending the purchase of a certain area.

Land purchases are limited by the amount of money which is available. The Fish and Game has many duties and responsibilities and each of these takes a certain part of available funds.

It is, of course, necessary that a certain portion of the budget be spent for goods and services, many of which are expendable, but the money which goes into land purchases is a value that will be enjoyed by our grandchildren as well as the present generation.

The legislature closely regulates the commission's land buying budget. Occasionally, this legislative ceiling prevents the Fish and Game from obtaining some very important lands which are unexpectedly offered for sale.

It is possible to separate the department-owned lands into three general classifications. These are:

1. Administrative and fish hatchery sites.
2. Game ranges and waterfowl areas.

3. Outdoor recreation areas such as fishing access sites and state parks.

Of late years the emphasis has been placed on obtaining more of the outdoor recreation areas, though still obtaining some properties in the other categories.

What sort of property will the commission buy for outdoor recreation? There are many things to be considered, but some guidelines can be laid out.

In most cases, water is one of the basic needs for outdoor recreation; preferably, a large stream or lake which offers lots of room for fishing, boating and swimming. The location should be easily accessible to the public and the area should be aesthetically attractive. Campgrounds should be at least ten acres in size to offer elbow room and a chance to "get away from it all."

The landowner with property to sell wonders what sort of price the commission may pay for his land. He may expect that recent sales of similar lands in his vicinity will be checked to find the "market price" of such lands. The commission's offer will be in line with this market price.

In a few instances the department has made land exchanges which were beneficial to both parties. It is not often possible to

find properties of equal value but cash can be given or taken "to boot."

What are the benefits for a landowner who sells to the Fish and Game Commission? Some who have sold property to the commission tell us they appreciate getting their payment promptly in a lump sum rather than getting long term mortgage payments. Some landowners said they benefited by having the campground nearby, because the public prefers to use this area and does not attempt to trespass on private croplands or livestock areas. One native born Montana rancher told us, "I fully realize the pleasure and enjoyment that this little grove of trees along this river can bring to people who are forced to live in town. I want it kept up and I want the public to have it long after I'm gone. This is the only chance I ever had to do a public service and be paid for it."

Persons who have lands for sale which they believe may be useful to the Fish and Game Commission may write direct to the Helena Fish and Game office or ask any Fish and Game employee to forward the information. If the landowner wishes to keep negotiations confidential he should so inform the commission.

1967 NATIONAL WILDLIFE WEEK

The importance and variety of the public lands which all citizens own, will be emphasized in the 1967 National Wildlife Week observance. It is scheduled for March 19-25, and the theme, "This is Your Land," will continue to be promoted for the remainder of the year. National Wildlife Week is annually sponsored by the National Wildlife Federation and its affiliates. Members of the Montana Wildlife Federation are inviting all citizens to join in learning about their local, state, and federal lands and helping to promote public use of them wherever possible.

"Public land begins with the local picnic grounds and includes state preserves and ranges as well as Bureau of Land Management areas, National forests and parks. These areas often already are heavily used, but we must devel-

op plans for them for even greater use tomorrow," A. G. Erskine, Wildlife Week chairman, points out. "We should become interested and learn about our public lands not being used and work to see that they provide for wildlife or recreation, and that they are managed under good conservation practices."

The Montana Wildlife Week chairman pointed out that much public property, especially in cities and towns, includes neglected building sites and lots which could become recreation areas. There are state lands used for water storage, or game management, or commercial forestry which could have a dual purpose of also providing needed areas for campers and sportsmen.

"We must take a close look at all of the ways our public lands are and can be made available," Erskine reminded.

National Wildlife Week, sponsored by the National Wildlife

Federation and its state affiliates such as the Montana Wildlife Federation, has been held each year since 1938.

ORACLES OF WISDOM

Oldtime mountain men were supposed to know everything there was to know about the mountain west. Alas, for the truth. John James Audubon, heading up the Missouri River during his Yellowstone trip of 1843 wrote:

"I have had much talk with Sublette, Campbell, Fitzpatrick and a hundred others who have had much to do in the fur trade, but I find them all shockingly ignorant out of their course of business. No one knows one animal from another beyond a beaver, a bear, a raccoon or an otter. . ."

from Wyoming Wildlife.



MAKOSHIKA STATE PARK

Makoshika (with the accent on the -ko) State Park, located just a few miles south of Glendive, is a place of strange natural beauties . . . if you like your beauty in badlands style. What does Makoshika mean? You can take your choice. Some say it means "Hell Cooled Over." Others say it means "Bad Earth." Still others say the word Makoshika is taken from the Dakota Sioux language; mako—meaning country or land; shi—meaning bad; and ka—meaning place.

Whatever you may want to call it, centuries of wind, water, heat and cold have created a weirdly fantastic and beautiful region. Tall columns of sandstone rise singly, capped with mounds of sandstone assuming strange shapes, carvings and formations. Many marine fossils have been found here. Dinosaur bones estimated at 100 million years old have been uncovered. More specifically, some of the rocks seem to form recognizable shapes such as a camel, a castle or even a potato.

Actually, this area was relatively unknown until it became a state park in 1953 as a result of a gift of land from Dawson county. The initial area included in the park was 160 acres. Later, in 1958, an additional 600 acres was added, by lease, from the Bureau of Land Management.

With much assistance from local individuals in Glendive, roads were developed in the park, scenic turnouts were included in the interior road system, picnic spots were located, facilities were placed and the area became available to the general public as a scenic and recreation area. With the area accessible, it wasn't long before it received much favorable comment from the visiting public—residents of Montana as well as visitors from other states.

Not too many years ago an amphitheater was constructed overlooking some of the most spectacular scenery in the park. From time to time it has been used for Sunday morning church services, Easter sunrise services as well as a variety of other gatherings of

groups that find inspiration from the oddly beautiful setting.

The park is a haven for a variety of wild animals. Deer can be spotted in early morning or late evening, and a few cats are said to roam the area from time to time.

And speaking of the early morning or the late evening, either of these two times of day are ideal for a visit to the park. The cross lighting from the sunlight makes for spectacular picture taking and the scenery changes each moment with the sunlight and shadow.

Much of the park may be seen from the window of a car, but a real experience with nature in the raw may be obtained by hiking down through the narrow, deep washes of multicolored shales, rocks and sandstone. Even exposed soft coal seams will be found in many of the formations.

Makoshika State Park is becoming one of the better known attractions in Montana and each year the visits from residents and

out-of-staters keep increasing. It is an outstanding scenic wonderland and should be placed on your "must visit" list if you haven't had the opportunity to see it.

Plans for further development at Makoshika include construction and reconstruction of access roads, construction of parking areas, installation of interpretive

LEGISLATION OVER THE YEARS

With all eyes on the 1967 legislature, one can but wonder what new ideas will be injected into Montana's game codes to cope with the changing times. Looking back over the laws which regulate recreation it's not too difficult to read the "signs of the times" into each legislative act.

Following is a brief summary of major fish and game legislation through the years.

1864-65—First law enacted to conserve fish: Trout to be caught only with hook, line and pole and use of seines or nets prohibited.

1869—First laws enacted protecting game birds: Quail and partridge protected—closed for a period of three years.

1872—First laws enacted protecting game animals: Closed season from February 1 to August 15 each year on buffalo, moose, elk, deer, mountain sheep, mountain goats, antelope and hares.

1873—Killing of song birds prohibited.

1875—First closed season on fur bearing animals: First laws enacted to curtail marketing of illegal game: Common carriers prohibited from transporting out of the state illegally killed game. First law enacted prohibiting use of explosives to kill fish. First closed season on ducks and geese.

1877—Act passed making it unlawful to kill game animals for hides alone without using or selling the meat. Trapping of beaver prohibited except on private lands. Sale of game birds for market purposes prohibited.

1879—First appropriation from territorial treasury for benefit of fishing: \$1,000 appropriated July 21, 1879 for removal of part of the Great Falls on the Clark Fork of Columbia River to enable salmon to reach upper waters of the territory.

1881—First stream pollution law enacted: Dumping of sawdust

devices, installation of latrines, wells, shelter buildings, picnic tables and fireplaces. Under past appropriations, however, there has been little if any money available for further development of land-based parks. Future development of Makoshika and other park areas will depend upon appropriations to the parks system.

and debris from sawmills into streams prohibited.

1883—Act passed prohibiting destroying nests of game birds and waterfowl or to take away eggs from nests.

1889—First game wardens provided: County Commissioners empowered to hire one warden for each county, if needed.

1891—Sale of trout caught in public waters prohibited.

1893—First year-round closed season on moose and elk.

1895—Fish & Game Commission created. Bag limits placed on game animals and prairie chickens for the first time.

1897—First daily bag limit placed on game birds. Sale of game animals, game birds, trout and grayling prohibited.

1901—First non-resident license required for taking game animals and game birds. Non-residents who are non-taxpayers required to purchase hunting license. First state game warden appointed.

1903—Shipping permits to ship game out of the state required. Taxidermist's license required. Guide's license required.

1905—First resident license required for taking fish or game.

1907—First fish hatchery at Anaconda provided for by appropriation from the legislature. Non-resident fishing license required.

1909—First daily bag limit placed on wild ducks.

1911—First game preserves established by the legislature.

1915—First daily bag limit placed on game fish. Daily limit 25 lbs. per day, unlawful to catch more than 10 fish under 6 inches in one day.

1917—Resident hunting and fishing license raised from \$1.00 to \$1.50.

1919—Restriction on use of the automobile to kill game.

1921—Fish and Game Commission granted power to allow fish and game districts in the state and to close or open seasons on game animals, birds, fish and furbear-

ers under certain conditions. Resident hunting and fishing license fee raised from \$1.50 to \$2.00.

1931—Big game license required to take elk and deer.

1941—Legislation enacted enabling the Fish and Game Commission to create wildlife restoration projects with funds appropriated by the federal government to aid in wildlife restoration.

1947—Cost of licenses raised for both residents and nonresidents.

1953—Special mountain sheep permits issued. First special bow and arrow season.

1955—Sale of \$20.00 nonresident deer and antelope licenses authorized.

1957—The hunter safety law providing for compulsory hunter training for residents under 18 years of age was passed and became effective January 1, 1958.

1959—Legislation was effected to set up safety equipment standards for boats. Included were specifications for fire extinguishers, life preserving equipment, lighting of boats and a boat registration and numbering system. Bounties on bobcats discontinued. First turkey license issued.

1963—Bill passed to prevent loss of trout stream habitat from construction programs.

1965—Stream preservation bill given permanent status. Guides required for nonresident big game hunters.

WHAT'S IN A NAME

Our thanks to Mr. Grant Buswell of the U.S. Geological Survey for providing the following information:

Have you ever listened to Chet Huntley's recording "Montana" in which he runs through the names of several of the state's towns? It never fails to get a chuckle when he mentions the "ridiculous little name of Twodot." One can but wonder how many names came about. Undoubtedly, names have been perpetuated through common usage. Many towns and geographic features were named after people, events and things. Some names are so common that they are actually points of confusion. For example, there are officially at least 67 Spring Creeks, 25 Sheep Creeks, and 32 Rock Creeks in Montana.

Multiplicity of names has complicated the job of mapmakers.

Further complications result when one stream, mountain or other feature is known by several names. For example, there are people who will argue that Blacktail Deer Creek near Dillon is more rightly called Dry Blacktail Creek, while others vow it's just plain Blacktail Creek.

A classical example of name confusion exists in the Bozeman area and begins with a stream called "Sourdough Creek." Sourdough Creek heads in the Gallatin Range and runs north towards the city of Bozeman. Before it reaches Bozeman, however, the small stream splits into two channels. The channels run roughly parallel for a mile or so and then join again. The western-most channel is called Spring Creek, while the eastern channel is still known as Sourdough Creek. Soon after the two channels come together again, the stream is no longer called Sourdough, but is officially named Bozeman Creek until its confluence with the East Gallatin River.

Then there is the case of two rivers, each apparently named after the same man, Captain William Clark (of Lewis and Clark). Near Cooke City, we have the Clarks Fork of the Yellowstone River. On the opposite side of the Continental Divide, and emptying into the Columbia River, we have the Clark Fork—not the Clark Fork River, nor the Clark Fork of

the Columbia, but just plain Clark Fork. The Yaak River of northwestern Montana becomes the Yahk River as we step across the border into Canada. The Kootenai in Montana becomes the Kootenay to our northern neighbors. There are scores of such anomalies. Man-made reservoirs are often called lakes (Hebgen, Canyon Ferry). Some creeks run into lakes and emerge as rivers. You may be surprised to know too that officially there are only two forks to the Missouri River—the Jefferson and Madison Rivers. They form the Missouri and the Gallatin flows into it. Then too, there is no North Fork of the Flathead River. What has been referred to as the North Fork is the upper reach of the main stem of Flathead River.

The naming of natural features is more than just casual interest. Water rights may closely be tied to names, and there are a number of agencies who have to wrestle with names when they prepare maps. The Fish and Game Department is involved with geographic names when setting regulations, and names may be important in court cases.

Back in 1890, President Harrison by executive order, established a Board of Geographic Names as the final authority to determine names of natural features. The purpose was to standardize names of streams, mountains, etc.,

and thus help prevent mapping confusion. Later this board was given the power to decide on new names also. In 1947, Public Law 242 was passed to provide a central authority for standardizing geographic names. Members of the board include the Secretary of Interior who ramrods the board, the Departments of State, Army, Navy, Interior, Agriculture, Commerce, Air Force, Defense, the Post Office department, Central Printing Office, Library of Congress and Central Intelligence agency.

In the event there is a discrepancy in naming features, this board is the final authority. They do not act entirely arbitrarily, however. Members of the U. S. Geological Survey first go into the area and research to see what the historical and local naming may be. The recommendations they make to the board are heavily weighted by local preference rather than physical geographic features.

In essence, then, the U.S. Board of Geographic Names establishes the official names of natural features of the landscape. Its decisions are reflected in U.S. Geological Survey topographic maps, and agencies such as the Fish and Game Department use these as an authoritative source of information on names. Shakespeare asked, some 275 years ago, "What's in a name?" Our answer, "Plenty!"

FISH, GAME AND AIRWAVES

Several years ago when it became apparent that television and radio were here to stay as an integral part of Montanan's lives, the Fish and Game began a long range project to provide information and educational materials over the air.

The present activity in this realm is possible only because Montana broadcasters have, as always, risen to the needs of their audiences and given generously of their time and facilities.

The use of broadcasting by the Fish and Game is done in three general ways. One way is by district and Helena personnel with specific training for this type of work appearing in person live (including pre-recorded tapes and videotapes) on radio and television stations, and providing news pictures and stories to the stations in their districts.

Another way is that regular releases, such as the Helena weekly release, and district releases pertinent mostly to localized areas are given to broadcast newsmen regularly.

The third way is by the production of television films, videotapes, slides and news pictures, and radio tapes. These include both spots and programs and are done in the Fish and Game Information and Education Division Film Center in Helena. In addition to general release spots and programs, many special sequences are provided to district I & E officers for incorporation into their local programs.

Fish and Game films combine television techniques with traditional movie makers' techniques to present interesting and informative programs to Montanans. The average documentary type movie

of good quality such as an industry, a city, or an entertainment producer might make has a minimum of 18 major steps or production phases, and costs from \$1,000.00 a running minute up. Some one minute spots you see on TV, such as car spots run as high as \$40,000 to \$60,000 each per minute. A taped radio program has at least eight steps from start to finish, and is less expensive because less is involved.

The cost would be prohibitive if the department were to hire outside producers to do this work, and any regular schedule impossible to maintain. It is possible to make TV films economically and within reason and Fish and Game programs average less than 1/10th the cost per minute usually associated with this type of work. We don't attempt to compete with Disney, but aim at making our



One of the many pictures found in "Birds of Our Lives," is shown here. This is a family of feeding whooping cranes, including a mottled youngster, a bird of the year.

NEW BOOK ON BIRDS AVAILABLE

"Birds in Our Lives," an attractively illustrated, 576-page book is the most recent book to be published by the Department of In-

terior. Sixty-one authors, many known internationally, have combined their talents to write this authoritative work.

This publication gives a many-sided story about birds and how

they influence our lives. It is available at \$9.00 a copy from the U.S. Government Printing Office, Washington, D.C. 20420, or from Selected Publications Sales, Box 20304, Portland, Oregon, 97230.

programs as good or better than a Montana station could do itself on the same subjects.

In the past two years the Fish and Game I & E Film Center has produced 11 color and nine black and white TV films, 18 of which were for general TV release and two for training-documentation, and several short sequences for live programs, plus TV and radio spots on over ten subjects, a weekly radio program and several dozen associated visual aids of the film and still picture categories. This adds up to 47 different things comprising over 600 separate films, tapes and scripts, not including a thousand color slides nor a couple hundred black and white photos and other less important things.

Our TV programs, and spots, are distributed to the eight Montana stations, six of which can run them in color, and to three stations in North Dakota, Wash-

ington and Alberta which have significant Montana coverage. Radio spots are distributed to 44 Montana radio outlets, the Inter-mountain Montana Network and to a few out-of-state stations that provide service to parts of Montana. Radio programs are ordinarily provided to over twenty stations, IMN and any other station that desires them. A few long radio programs are distributed to IMN's 13 station hook-up and a dozen other stations with large coverage areas for reasons of speed and economy, although no broadcaster who wanted a program would be turned down. This TV and radio activity is all in addition to local broadcast use in each of the seven Fish and Game districts.

The aim of our broadcast spots, such as hunter safety, water safety, and others is to create a continuing awareness in people's minds of things important to

them. This may range from hunter safety and landowner-recreationist relationships to reminders that special permit applications are due by certain dates. Straight news releases are used on film, tape and copy to provide information of more than routine immediacy.

The aim of programs is to provide information giving Montanans fuller understanding and a more complete picture of their wildlife resources generally, and of course, fishing, parks and outdoor recreation in general. Although people respond more quickly and often more violently to appeals to their emotions, Fish and Game programs are produced to appeal to their minds. Effective dramatizations do evoke emotional responses, but the scripts for our programs are always solidly backed by the most reliable information available.

After statewide TV use, the



Hector LaCasse adjusts sound tracking equipment at the Fish and Game Department's Film Center. Good films and good sound can be produced only with good equipment.

films become part of the regular department loan library, which consists of 103 prints of 52 titles, available to schools, groups, clubs and individuals who use the library in the amount of about 800 bookings per year.

The striking advances in the field of electronics every year bring new problems to be solved, new questions to be answered, and more work to be done to keep programs concerning Fish and Game matters on the air to the public frequently enough to compete with the mass of other information people are exposed to, universal in extent and infinite in number. The I & E Division standing program insures that our broadcast endeavors will continue improving in quality and quantity to meet the needs of a rapidly changing state.

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